

WHAT IS CLAIMED IS:

1 ~~Sub 1~~ 1. A method of forming an electrical connection between two devices,  
2 comprising:  
3 bonding an interconnection on a first contact pad of a first component,  
4 wherein said interconnection comprises  
5 a conductive polymer comprising a polymer component and a conductive  
6 component; and,  
7 a first solderable cap disposed in contact with said conductive polymer;  
8 and,  
9 soldering said first solderable cap to a second contact pad of a second  
10 component.

1 2. The method of claim 1, wherein said polymer component comprises a  
2 thermoplastic polymer, a copolymer, or a blend, and said conductive component  
3 comprises electrically conductive particles.

1 3. The method of claim 2, wherein said polymer component comprises a  
2 nylon, polysulfone, polyester, polyimide, siloxane, ethylene, vinyl acetate, aryl-ether,  
3 polyutethane, polyisocyanate, polyether, polyester, acrylate, or polyvinyl chloride.

1 4. The method of claim 2 wherein said conductive particles comprise gold,  
2 silver, palladium, oxide free noble alloys of gold, silver, and palladium, or a noble metal.

1 5. The method of claim 1, wherein said first solderable cap comprises gold,  
2 nickel, silver, copper, zinc, palladium, platinum, indium, tin, bismuth, or lead.

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1 6. The method of claim 1, wherein said first solderable cap has a width and a  
2 thickness, and said width is about 0.010 inches to about 0.050 inches, and said thickness  
3 is about 0.002 inches to about 0.01 inches.

1 7. The method of claim 1, wherein said conductive polymer has a width and  
2 a thickness, and said width is about 0.010 inches to about 0.050 inches, and said thickness  
3 is about 0.002 inches to about 0.058 inches.

1 8. The method of claim 1, wherein said conductive polymer has a resistivity  
2 of less than about 0.05 ohms per centimeter.

1 9. The method of claim 1, wherein said first solderable cap is a solder ball.

1 10. The method of claim 1 wherein said bonding comprises placing said  
2 interconnection in contact with said first contact pad and heating said conductive  
3 polymer.

1 11. The method of claim 1 wherein said bonding comprises:  
2 applying said conductive polymer in an uncured state on said first contact  
3 pad;  
4 disposing said first solderable cap in contact with said conductive  
5 polymer; and,  
6 curing said conductive polymer.

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~~12. A method of forming an electrical connection between two devices,  
comprising:  
soldering a second solderable cap of an interconnection to a first contact  
pad of a first component, wherein said interconnection comprises:  
a conductive polymer comprising a polymer component and a conductive  
component;  
a first solderable cap disposed in contact with said conductive polymer;  
and,  
said second solderable cap disposed in contact with said conductive  
polymer opposite said first solderable cap; and,  
soldering said first solderable cap to a second contact pad of a second  
component.~~

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~~13. The method of claim 12, wherein said polymer component comprises a  
thermoplastic polymer, a copolymer, or a blend, and said conductive component  
comprises electrically conductive particles.~~

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~~14. The method of claim 13, wherein said polymer component comprises:  
a nylon, polysulfone, polyester, polyimide, siloxane, ethylene, vinyl  
acetate, aryl-ether, polyutethane, polyisocyanate, polyether, polyester, acrylate, or  
polyvinyl chloride.~~

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~~15. The method of claim 13 wherein said conductive particles comprise gold,  
silver, palladium, oxide free noble alloys of gold, silver, and palladium, or a noble metal.~~

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1 16. The method of claim 12, wherein said first solderable cap and said second  
2 solderable cap comprise gold, nickel, silver, copper, zinc, palladium, platinum, indium,  
3 tin, bismuth, or lead.

1 17. The method of claim 12, wherein said first solderable cap and said second  
2 solderable cap have a width and a thickness, and said width is about 0.010 inches to about  
3 0.050 inches, and said thickness is about 0.002 inches to about 0.01 inches.

1 18. The method of claim 12, wherein said conductive polymer has a width and  
2 a thickness, and said width is about 0.010 inches to about 0.050 inches, and said thickness  
3 is about 0.002 inches to about 0.058 inches.

1 19. The method of claim 12, wherein said conductive polymer has a resistivity  
2 of less than about 0.05 ohms per centimeter.

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